

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in this application:

## **LISTING OF CLAIMS:**

Claims 1 to 21. (Canceled).

22. (Previously Presented) An electrical component, comprising:  
a first conductive structure;  
a second conductive structure;  
at least one feedthrough including one of a right prism and a right cylinder;  
a base element provided with at least one feedthrough that connects, continuously at least for high frequency electromagnetic waves, the first conductive structure, the first conductive structure extending on or in a vicinity of an upper side of the base element, to the second conductive structure, the second conductive structure extending on or in a vicinity of a lower side of the base element, wherein each one of the first conductive structure and the second conductive structure includes a planar waveguide.

23. (Previously Presented) The electrical component as recited in Claim 22, wherein the electrical component is one of a high frequency microelectronic component and a microelectromechanical component.

24. (Previously Presented) The electrical component as recited in Claim 22, wherein each one of the first conductive structure and the second conductive structure includes a coplanar waveguide

25. (Previously Presented) The electrical component as recited in Claim 22, wherein the at least one feedthrough is one of filled and lined with an electrically conductive material corresponding to a metal.

26. (Previously Presented) The electrical component as recited in Claim 22, wherein:

the base element is flat at least in a vicinity of the at least one feedthrough,  
and

the at least one feedthrough extends perpendicularly to a plane spanned by  
the vicinity of the base element that is flat and penetrates through the base element.

27. (Previously Presented) The electrical component as recited in Claim 22,  
wherein the at least one feedthrough is etched into the base element using a plasma  
etching method and then one of filled and lined with an electrically conductive  
material.

28. (Previously Presented) The electrical component as recited in Claim 22,  
wherein the at least one feedthrough is one of round, oval, square, and rectangular  
in plan view.

29. (Currently Amended) The electrical component as recited in Claim 22,  
wherein at least one of:

the at least one feedthrough occupies in plan view an area of  $400\ \mu\text{m}^2$  to  
 $40,000\ \mu\text{m}^2$ , and

the at least one feedthrough has a diameter of  $20\ \mu\text{m}$  to  $200\ \mu\text{m}$ , in particular  
 ~~$40\ \mu\text{m}$  to  $100\ \mu\text{m}$ .~~

30. (Previously Presented) The electrical component as recited in Claim 29,  
wherein:

the at least one feedthrough occupies in plan view an area of  $1,600\ \mu\text{m}^2$  to  
 $10,000\ \mu\text{m}^2$ , and

the at least one feedthrough has a diameter of  $40\ \mu\text{m}$  to  $100\ \mu\text{m}$ .

31. (Previously Presented) The electrical component as recited in Claim 22,  
wherein the base element has, in a region of the at least one feedthrough, a  
thickness of  $100\ \mu\text{m}$  to  $650\ \mu\text{m}$ .

32. (Previously Presented) The electrical component as recited in Claim 22,  
wherein the base element includes a high resistance silicon disk having a specific  
electrical resistance of more than  $1000\ \Omega/\text{cm}$

33. (Previously Presented) The electrical component as recited in Claim 22, further comprising:

a dielectric by which the first conductive structure and the second conductive structure are separated.

34. (Previously Presented) The electrical component as recited in Claim 22, wherein:

the dielectric includes a patterned dielectric layer.

35. (Previously Presented) The electrical component as recited in Claim 33, wherein:

the dielectric, the first conductive structure, the second conductive structure, and the at least one feedthrough form a capacitor having a capacitance of 0.05 pF to 4 pF.

36. (Previously Presented) The electrical component as recited in Claim 35, wherein:

the capacitance is 0.1 pF to 2 pF.

37. (Previously Presented) The electrical component as recited in Claim 33, wherein:

the dielectric includes a silicon oxide layer having a thickness of 45 nm to 1800 nm.

38. (Previously Presented) The electrical component as recited in Claim 37, wherein:

the dielectric includes a silicon oxide layer having a thickness of 90 nm to 900 nm.

39. (Previously Presented) The electrical component as recited in Claim 22, wherein:

the at least one feedthrough includes a first feedthrough, a second feedthrough, and a third feedthrough,

the first conductive structure includes an upper coplanar waveguide having:  
a first upper ground lead,  
an upper signal lead, and  
a second upper ground lead, the first upper ground lead, the upper signal lead, and the second upper ground lead extending at least locally parallel to one another,  
the second conductive structure includes a lower coplanar waveguide having:  
a first lower ground lead,  
a lower signal lead, and  
a second lower ground lead, the first lower ground lead, the lower signal lead, and the second lower ground lead extending at least locally parallel to one another,  
the first upper ground lead is connected to the first lower ground lead by way of the first feedthrough,  
the second upper ground lead is connected to the second lower ground lead by way of the second feedthrough,  
the upper signal lead is connected to the lower signal lead by way of the third feedthrough, and  
the third feedthrough is offset with respect to the first feedthrough and the second feedthrough.

40. (Previously Presented) The electrical component as recited in Claim 39, wherein in plan view, the offset of the third feedthrough on the base element is 50  $\mu\text{m}$  to 300  $\mu\text{m}$ .

41. (Previously Presented) The electrical component as recited in Claim 39, wherein in plan view, the offset of the third feedthrough on the base element is 150  $\mu\text{m}$ .

42. (Previously Presented) The electrical component as recited in Claim 22, wherein one of the first conductive structure and the second conductive structure locally has a capacitive component, corresponding to an interdigital capacitor, for further HF compensation.

43. (Previously Presented) The electrical component as recited in Claim 22, further comprising:

one of an electrical component and a sensor element provided on an upper side of the base element and capable of being electrically activated by way of the at least one feedthrough from the lower side of the base element.

44. (Previously Presented) The electrical component as recited in Claim 43, wherein:

the at least one feedthrough includes at least two feedthroughs,  
the one of the electrical component and the sensor element is capable of being activated by way of the at least two feedthroughs, and  
the at least one of the electrical component and the sensor element includes a high frequency microelectronic or a microelectromechanical component such as a high frequency diode or a high frequency transistor, a micromechanically fabricated short circuit switch for high frequency electromagnetic waves, or a micromechanically fabricated sensor element.

45. (Previously Presented) The electrical component as recited in Claim 22, wherein the electrical component is provided, on the upper side of the base element, with a hermetically sealed capsule.

Claims 46 to 50. (Canceled).

51. (Currently Amended) The electrical component as recited in Claim 22, wherein the electrical component is ~~sued~~ used to create low loss high frequency crossovers.